COASTAL CONSERVANCY

Staff Recommendation
May 26, 2016

WHITE SLOUGH RESTORATION, PHASE II

Project No. 13-001-02
Project Manager: Joel Gerwein

RECOMMENDED ACTION: Authorization to disburse up to $500,000 of grant funds from the Natural Resources Agency to the Humboldt County Resource Conservation District to continue implementation of the White Slough Restoration Project in the Humboldt Bay National Wildlife Refuge (HBNWR) on Humboldt Bay.

LOCATION: Southeast portion of Humboldt Bay shoreline, unincorporated Humboldt County (Exhibit 1)

PROGRAM CATEGORY: Integrated Coastal and Marine Resources Protection; Climate Change

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EXHIBITS

Exhibit 1: March 26, 2015 Staff Recommendation

Exhibit 2: Phase I As Built and Phase II Design

Exhibit 3: Project Letters

RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31220 and 31113 of the Public Resources Code:

"The State Coastal Conservancy hereby authorizes disbursement of an amount not to exceed five hundred thousand dollars ($500,000) to the Humboldt County Resource Conservation District (HCRCD) to continue implementation of the White Slough Restoration Project, within the Humboldt Bay National Wildlife Refuge on Humboldt Bay. This authorization is subject to the following conditions:

1. Prior to disbursement of funds under this authorization, the HCRCD shall submit for the review and approval of the Executive Officer:
   a. A work plan, schedule, budget, and the names of any contractors or subcontractors to be retained for each phase of the Project.
   b. Evidence that all permits and approvals necessary to that phase of the Project have been obtained.

c. A plan for the installation of a sign acknowledging Conservancy and CNRA funding.

2. The HCRCD will assist the Conservancy in completing all the necessary landowner agreements, monitoring and reporting requirements of the California Natural Resources Agency's Environmental Enhancement and Mitigation fund.

3. In implementing the Project, the HCRCD shall ensure compliance with all applicable mitigation measures and monitoring and reporting requirements for the project that are identified in the IS/MND and MMRP certified and adopted by the Conservancy at its March 26, 2015 meeting, or in any permits, approvals or additional environmental documentation required for the Project."

Staff further recommends that the Conservancy adopt the following findings:

"Based on the accompanying staff report and attached exhibits, the State Coastal Conservancy hereby finds that:

1. Disbursement of additional funds for the implementation of the Project remains consistent with Public Resources Code Sections 31220 and 31113 and with the resolution, findings and discussion accompanying the Conservancy authorization of March 26, 2015 as detailed in the staff recommendation attached as Exhibit 1 to the accompanying staff recommendation.

2. The proposed authorization remains consistent with the current Project Selection Criteria and Guidelines, as detailed in Exhibit 1 to the accompanying staff recommendation.

3. At its March 26, 2015, the Conservancy reviewed and adopted an Initial Study and Mitigated Negative Declaration for the White Slough Restoration Project, and filed a Notice of Determination with the State Clearinghouse on March 27, 2015. Since the Project, including potential environmental effects and conservation measures, remains unchanged, the proposed authorization remains consistent with the CEQA findings adopted by the Conservancy in connection with the March 26, 2015 authorization. "

PROJECT SUMMARY:

The Conservancy previously authorized the White Slough Restoration Project (Project) on March 26, 2015 (Exhibit 1), and approved partial funding for the Project. This authorization would allow for the disbursement of an additional $500,000 in Environmental Enhancement and Mitigation (EEM) grant funds awarded to the Conservancy by the California Natural Resources Agency (CNRA) for the implementation of Phase IIA of the Project, as described below.

The White Slough Restoration Project entails the restoration of 40 acres and the enhancement of an additional 16 acres of tidal marsh. The Project area consists primarily of diked historic tidelands which have subsided to their current elevation of approximately three feet below sea level. The overall Project requires importing approximately 200,000 cubic yards of sediment to the site to bring the area to elevations that will support salt marsh vegetation. As it was clear that the Project would be implemented over several construction seasons, and there was an urgency to begin work due to the failure of a dike which was temporarily repaired with an AquaDam, the Project was segmented into phases, which allowed for work to commence in the Summer of 2015 on Phase I, while fundraising efforts for the entire Project continued.

At the time of the March, 2015 Conservancy authorization, the implementation costs for Phase I of the Project were known, but the costs for the subsequent phases were still uncertain, due largely to wide variations in the cost of importing sediment to the site. Phase I was completed in November 2015, the end of the first construction season (Exhibit 2). During Phase 1, approximately 50,000 cy of sediment were imported to the site and graded to create tidal ridges. These ridges will support high marsh vegetation when tidal influence is restored to the Project area, and separate the Project area into four basins. The ridges are critical to the Project because they will allow for project implementation to proceed even if the compromised outer dikes fail.

Work on Phase II will begin in Summer 2016, with the import of up to an additional ~50,000 cy of sediment to begin bringing the North and South basins to tidal marsh elevations. This work will constitute Phase IIA of the Project. 20,000-30,000 cy for this work is expected to come from the Rohner Creek Flood Control Project in the City of Fortuna. The suitability, amount, and cost of the Rohner Creek material will be determined by June after that project goes to bid. An additional 6,000-10,000 cy for work in Summer 2016 is expected to come from the dredging of the Fisherman's Slough channel in King Salmon. Pacific Gas and Electric (PG&E) is dredging the Fisherman's Slough channel as part of work related to the Humboldt Bay Power Plant, and PG&E will pay for this material to be slurried to the White Slough Project site. If necessary for Phase IIA, an additional 10,000-12,000 cy is available from the Humboldt Bay National Wildlife Refuge. The majority of that material will come from excavating off-channel ponds along Salmon Creek that were restored as part of a restoration project and have since silted in.

The initial work on filling the basins will be focused around the location of the north and south tidegates (Exhibit 2). These areas are currently exposed to wave action at tides above 6.5 ft due to low spots in the perimeter dike. The tidal overwash could erode the tidal ridges over the course of 1-2 years. Sediment placement near the low spots in the perimeter levee will ultimately be required for tidal marsh restoration, but is a priority in the short term to further stabilize the site and prevent erosion of the tidal ridges while additional sediment is secured to complete the overall Project. As noted above, the final cost of this work will be determined when the Project is bid by June 2016, and sediment transportation costs are confirmed. It is likely but not certain that remaining funds from the March 2015 Conservancy authorization will be adequate for the completion of the Phase IIA work, but if costs come in higher than expected, a portion of the EEM grant funds may be used for this work, with the remainder dedicated to Phase IIB work in future seasons. Phase IIB will involve importing sediment to bring the 40 acre Project area to elevations that will support tidal marsh vegetation and breaching the perimeter levee to reintroduce tidal influence to each of the Project area basins. The Project design allows tidal marsh to be restored in subunits of the Project area, one basin at a time, as affordable sources of sediment become available (Exhibit 2). Phase IIB will most likely be completed by 2018, depending on the availability of sediment for the Project. This authorization, like the March 2015 authorization, would require the approval of a budget and work program for each discrete phase of the Project, ensuring that adequate funds are available to complete each phase of the restoration before work begins. A budget and work program would be developed for Phase IIA work to be completed in 2016. While sediment sources and funds for all the work to be completed under Phase IIB have not been definitively secured, acceptance of the grant from CNRA and its availability for disbursement to the grantee will ensure that the Phase IIA work will be completed as soon as possible to fully stabilize the site.

Project History: The Conservancy has worked with the HBNWR and others around Humboldt Bay for decades to protect and restore tidal marshes and other coastal habitats. The HBNWR contacted the Conservancy about this Project in Fall 2012 and has been developing the Project with staff since that time. In February 2013, the Conservancy granted $30,000 to fund permitting, environmental analyses and planning work for the White Slough Restoration Project. The Project has obtained all necessary permits. Conservancy staff has actively supported Project design and the identification of sediment sources for the Project, and assisted with preparation of the IS/MND. Conservancy staff worked with the USFWS and HBNWR staff to apply for the NCWC funds, which were awarded in January 2014, and the EEM funds, which were awarded on March 25, 2016. The Conservancy Board authorized staff's application for EEM funds on October 1, 2015. The Conservancy previously approved $1,450,000 funding for project implementation on March 26, 2015, including $950,000 from a US Fish and Wildlife Service National Coastal Wetlands Conservation grant and $500,000 of Conservancy funds.

PROJECT FINANCING

Phase I

USFWS National Coastal Wetlands Conservation Grant	$612,486
State Coastal Conservancy	$306,236
Phase I Total	**$918,722**

Phase II

USFWS Deferred Maintenance Funds	$390,000
USFWS National Coastal Wetlands Conservation Grant	$337,514
State Coastal Conservancy	$193,764
California Natural Resources Agency	$500,000
To Be Determined	$0-$460,000
Phase II Total	**$1,421,278-1,881,278**
Project Total	**$2,340,000-$2,800,000**

The proposed disbursement under this authorization will derive entirely from the grant by Resources Agency of EEM funds to the Conservancy for the Project. These funds are derived from the EEM Program. This program, as provided by California Streets and Highways Code Section 164.56 and Article XIX, Section 2, of the State Constitution, authorizes the legislature to allocate up to $7 million each fiscal year from the Highway Users Tax Account to be used for the enhancement of resource lands to mitigate the loss of, or the detriment to, resource lands lying within or near the right-of-way acquired for transportation improvements. It should be noted that

the Project will not substitute for required mitigation for transportation project impacts. Rather, it will be considered surplus mitigation for the Alton Interchange Project at Highway 101 in Alton, which has already fulfilled all its required mitigation through other means.

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

As described in the previous staff recommendation (Exhibit 1), the proposed Project is undertaken pursuant to Chapter 5.5 of Division 21 of the Public Resources Code (Section 31220) and pursuant to Section 31113, as follows:

Pursuant to Section 31220(a) and 31220(b), the Conservancy may undertake projects to protect and restore coastal habitats if the project "protects or restores fish and wildlife habitat within coastal and marine waters and coastal watersheds" or "restores coastal wetlands, riparian areas, floodplains, and other sensitive watershed lands, including watershed lands draining to sensitive coastal or marine areas." (PRC §31220(b)(2) & (6)). Consistent with this section, the proposed Project will result in the restoration of tidal marshes that provide habitat for fish and wildlife, including listed species, in Humboldt Bay and protect wetland and floodplain areas adjacent to Highway 101.

The Conservancy has consulted with the State Water Resources Control Board in the development of the Project to ensure consistency with Chapter 3 of Division 20.4 of the Public Resources Code regarding water quality. (Exhibit 1). Consistent with Section 31220(c), the proposed Project includes a monitoring and evaluation component, as reflected in the MMRP and is consistent with applicable and relevant Integrated Regional Water Management programs, local watershed management plans, and water quality control plans adopted by the state or regional water quality control boards, as discussed in the "Required Criteria" and "Consistency with Local Watershed Management Plan/State Water Quality Plan" sections below. In addition, HBNWR staff continuously monitors the Refuge for changes in its function.

This Project is also consistent with Section 31113, which provides that "the Conservancy may undertake projects within its jurisdiction, including, but not limited to, those that reduce greenhouse gas emissions, address extreme weather events, sea level rise, storm surge, beach and bluff erosion, salt water intrusion, flooding and other coastal hazards that threaten coastal communities, infrastructure and natural resources." This Project will provide protection for natural resources within the Project area and for the Tompkins Hill Rd-Highway 101 interchange from erosion, sea level rise and climate-induced storm surge impacts.

CONSISTENCY WITH CONSERVANCY'S 2013 STRATEGIC PLAN GOAL(S) & OBJECTIVE(S), AS REVISED JUNE 25, 2015:

Consistent with **Goal 5, Objective 5B** of the Conservancy's 2013 Strategic Plan, the proposed Project will restore 56 acres of coastal wetlands.

Consistent with **Goal 7, Objective 7D** of the Conservancy's 2013 Strategic Plan, the proposed Project will implement an adaptation pilot project to reduce hazards from sea level rise and extreme storm events while protecting natural resources and maximizing public benefits.

CONSISTENCY WITH CONSERVANCY'S PROJECT SELECTION CRITERIA & GUIDELINES:

Required Criteria

1. **Promotion of the Conservancy's statutory programs and purposes:** See the "Consistency with Conservancy's Enabling Legislation" section above.
2. **Consistency with purposes of the funding source:** See the "Project Financing" section above.
3. **Promotion and implementation of State plans and policies:** The Project will help implement two priority actions identified in the 2014 *California Water Action Plan* (CWAP):

   Action 4: Protect and Restore Important Ecosystems. The Project will implement this action by restoring tidal marsh in an estuary that provides valuable fish and wildlife habitat.

   Action 8: Increase Flood Protection. The CWAP calls for action to address flooding threats due to aging levee infrastructure and sea level rise due to climate change. The Project will implement this action by restoring tidal marsh in an area currently protected by severely eroded dikes, providing protection for the Tompkins Hill Road-Highway 101 Interchange from flooding and storm damage that will increase with sea level rise.

   The Project will implement a Management Measure identified in the *California Nonpoint Source Pollution Control Program* prepared by the State Water Resources Control Board in 2000: MM6B- Restoration of Wetlands and Riparian Areas. The Project will further the following goal of the *California Wildlife Action Plan*, prepared by the California Department of Fish and Wildlife in 2007: Federal, state, and local agencies, nongovernmental conservation organizations, and private landowners should protect and restore under-protected and sensitive habitat types. The Project would help implement the following tasks identified in the *Recovery Strategy for California Coho Salmon*, prepared by CDFW in 2004:

   - Eureka Plain Task 2: Work with agencies and landowners, to re-establish estuarine function.
   - Eureka Plain Task 10: In cooperation with willing landowners, restore and maintain historical tidal areas, backwater channels and salt marsh.
   - Rangewide-Estuaries Task 2: Restore estuarine and associated wetland ecosystems.
4. **Support of the public:** The Project is broadly supported by the public. See Exhibit 1 for letters of support.
5. **Location:** The proposed Project is located within the coastal zone of Humboldt County.
6. **Need:** This grant funding is needed to fully fund this phase of the work which seeks to stabilize the site and continue the restoration Project. If construction is delayed, additional dike failures may threaten the feasibility of project completion, and potential sediment sources may be lost to the Project.
7. **Greater-than-local interest:** The proposed Project will lead to the restoration of tidal marsh in Humboldt Bay, which provides plant and wildlife habitat of regional and statewide importance for resident and migratory species.

8. **Sea level rise vulnerability:** Project planning has considered sea level rise vulnerability. The placement of fill at White Slough would increase resiliency to sea level rise by providing living shoreline protection for wetlands and roads from inundation.

Additional Criteria

9. **Urgency:** Restoration of White Slough is urgent because the dikes protecting the restoration area are severely eroded. A section of dike failed in August 2014 and was patched with an AquaDam. Phase I work has temporarily stabilized the site, but frequent overwash events on the perimeter dikes threatens the site's tidal ridges. Without additional work to implement Phase IIA, the tidal ridges could be damaged, making the Project more costly or infeasible.
10. **Resolution of more than one issue**: The Project would restore valuable fish and wildlife habitat, while providing protection for roads from sea level rise.
11. **Leverage**: The Project leverages significant in-kind contributions from the US Fish and Wildlife Service in the form of staff time for restoration design and an additional $310,000 in USFWS Deferred Maintenance funding described in the March 26, 2015 authorization. These funds are not shown in the Project Financing Section because they were shown in the previous staff recommendation.
12. **Innovation**: The White Slough Restoration is the first demonstration of beneficial reuse of sediment in the Humboldt Bay region.
13. **Readiness**: Sediment sources have been identified for Phase IIA, the Project design has been completed and all necessary permits are in place.
14. **Realization of prior Conservancy goals**: See "Project History" above.
15. **Vulnerability from climate change impacts other than sea level rise:** Selection of species for the restoration planting palette will be designed to enhance resiliency to climate change, which may result in changes in precipitation and fog patterns as well as increased temperatures.
16. **Minimization of greenhouse gas emissions:** As the overall Project identifies sediment sources and moves forward with implementation, the project team will attempt to minimize the Project's transportation and cut and fill requirements, which are expected to be sources of greenhouse gas emissions from the Project. Minimization measures include selecting sediment sources located as close as possible to the Project area (e.g. College of the Redwoods, Fisherman's Slough, and Martin Slough sites will be preferred over Samoa), and using trucks with transfer trailers attached to reduce the number of truck trips required. The estimate for construction-related emissions for the entire Project, primarily resulting from hauling sediment, is 945 tons of CO_2-equivalent (with 426.93 tons of CO_2-equivalent from the 2016 operations). Restored tidal marsh is expected to sequester more carbon than existing habitats. The overall Project will convert 25 acres of brackish marsh to salt marsh. This conversion will reduce the potential for the Project area to emit methane in the short term, as brackish marshes have a high potential for methane emissions, and salt marsh has a low potential for methane emission. In the long term, without Project implementation, the perimeter dike and temporary coffer dam would fail and the entire 40 acre West Unit subarea would convert to mudflat. Therefore, the long-term effect of the Project is a net decrease in greenhouse gases due to increased carbon sequestration of the restored tidal marsh.

CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:

The Humboldt Bay Area Plan (HBAP) of the Humboldt County Local Coastal Program (LCP), certified by the California Coastal Commission in 1982, supports planning to protect and enhance environmentally sensitive habitats, such as coastal marshes and dunes. The HBAP cites Public Resources Code Section 30240(a), a provision of the California Coastal Act, which states that "environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values" (HBAP Section 3.30, p. 38). In addition, the HBAP stresses the tremendous value of salt marsh, brackish marsh, dunes, and other natural habitats for fish and wildlife in Humboldt Bay (HBAP, Section 3.30(A), pp.39-40). The Project will result in the restoration of coastal wetlands in Humboldt Bay. Therefore, the Project is entirely consistent with the policies of the HBAP of the Humboldt County LCP, as discussed above.

CONSISTENCY WITH LOCAL WATERSHED MANAGEMENT PLAN/ STATE WATER QUALITY CONTROL PLAN:

The Project is consistent with, and furthers the goals of, the *Humboldt Bay Management Plan* (HBMP), prepared in May 2007 by the Harbor District. The HBMP expresses support for the goals of the proposed Project in the following statement:

> Salt marshes in the Bay have been reduced substantially in area with respect to their pre-settlement extent, and they continue to be lost. In addition, the extant salt marshes are degraded by the dominant presence of dense-flowered cordgrass. The benefits of shoreline-protecting salt marshes for stabilizing sediment and protecting shoreline structures from wave impacts combine with a conservation focus on maintaining or restoring salt marshes to make the restoration or enhancement of salt marshes an important concern for the District. (HBMP, p.129)

The proposed Project is consistent with Objective CAS-3: "Maintain and enhance habitat for sensitive species" (HBMP, p.204), in that it will lead to the protection and restoration of habitat for Point Reyes bird's beak and Humboldt Bay Owls Clover, both listed as endangered by the California Native Plant Society.

The Project is consistent with, and furthers the goals of, the Humboldt Bay Watershed Salmon and Steelhead Conservation (HBSSC) Plan, prepared by the Humboldt Bay Watershed Advisory Committee in March 2005. The HBSSC Plan highlights the importance of the Bay's tidal marshlands in supporting salmon populations, as well as diverse communities of fish and wildlife (p.11). The HBSSC Plan notes that estuarine habitat is necessary for the survival of salmon and that this habitat "has been significantly reduced by construction of levees and tidegates, and placement of fill" (HBSSC Plan, p.viii). One of the stated goals of the HBSSC Plan is to "Maintain and restore estuary processes that benefit salmonids" (HBSSC Plan, p.ix). The proposed Project would further this goal by restoring tidal marshes, as discussed above in the "Project Summary" section.

The proposed Project is consistent with the Water Quality Control Plan for the North Coast (adopted by the Regional Water Quality Control Board North Coast Region in 1988 and last updated in 2007) in that it will enhance wildlife habitat, habitat for rare, threatened and

endangered species, and estuarine habitat in Humboldt Bay. The Water Quality Control Plan for the North Coast designates wildlife habitat, rare, threatened, and endangered species habitat, and estuarine habitat as beneficial uses of Humboldt Bay (Water Quality Control Plan for the North Coast, Table 2-1, pp. 2-8 to 2-12).

The Project is consistent with HBNWR's Comprehensive Conservation Plan (CCP), adopted by USFWS in 2009. This Project will achieve the CCP's specific goal of restoring tidal influence and marshes with a full continuum of salinities to the WSU.

COMPLIANCE WITH CEQA:

As stated in the Conservancy resolution of March 26, 2015, the *Final Initial Study and Mitigated Negative Declaration for the White Slough Restoration Project* (IS/MND), which was adopted on that date, identifies potentially significant effects from implementation of the Project in the areas of biological resources, hazards/hazardous materials, hydrology/water quality, and noise. As modified by incorporation of the mitigation measures identified in the IS/MND, project implementation will avoid, reduce, or mitigate all of the possible significant environmental effects of the Project to a level that is less than significant. Based on the record as a whole, there is no substantial evidence that the implementation of the White Slough Restoration Project, as mitigated, will have a significant effect on the environment.

The IS/MND analyzes the implementation of the current design of the proposed Project, including Phase II of the Project. A Notice of Intent to Adopt Proposed Mitigated Negative Declaration and a Notice of Completion for the IS/MND was issued for agency and public review and sent to the State Clearinghouse on February 9, 2015 to announce the availability of the document and the 30-day review period. The Draft IS/MND was available online at scc.ca.gov, and copies of the IS/MND were made available at the Humboldt County Library in Eureka, and at the Conservancy offices in Oakland. The Conservancy received no public comment letters or emails on the Draft IS/MND. The Final IS/MND was adopted by the Conservancy on March 26, 2015, and a Notice of Determination was filed with the State Clearinghouse on March 27, 2015.

Since the next phase of the Project which is the subject of this authorization, including potential environmental effects and conservation measures, remains unchanged from the approved Project, the proposed authorization remains consistent with the CEQA findings adopted by the Conservancy in connection with the March 26, 2015 authorization. Staff will file a notice of determination upon approval of the staff recommendation.